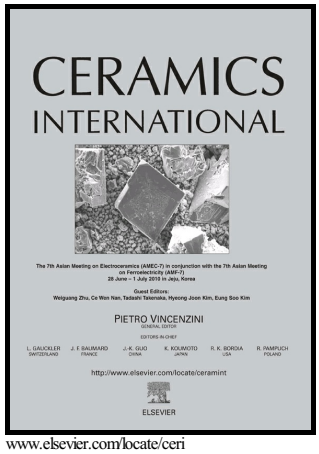

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PII: S0272-8842(18)31346-4
DOI: https://doi.org/10.1016/j.ceramint.2018.05.203
Reference: CERI18378

To appear in: *Ceramics International*

Received date: 21 April 2018
Revised date: 21 May 2018
Accepted date: 23 May 2018

Cite this article as: Honghong Yi, Yonghai Huang, Xiaolong Tang, Shunzheng Zhao, Fengyu Gao, Xizhou Xie, Jiangen Wang and Zhongyu Yang, Synthesis of Mn-CeOx/Cordierite Catalysts Using Various Coating Materials and Pore-forming Agents for Non-methane Hydrocarbon Oxidation in Cooking Oil Fumes, *Ceramics International,* https://doi.org/10.1016/j.ceramint.2018.05.203

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ABSTRACT

Cooking oil fumes (COFs) as an important source of volatile organic compounds (VOCs) in metropolitan areas is poisonous to the environment and human health, and the removal rate of Non-methane Hydrocarbon (NMHC) in COFs was used to verify the activity of catalysts made to depurate COFs. The textural properties of cordierite are limitation to the catalyst's performance. Therefore, in this paper, coating the cordierite to improve its surface properties was investigated. The experiment results and characterization data revealed that TiO_2 was a better coating material because of coating on TiO_2 can improve the surface morphology better than that of Al_2O_3. The SEM and BET data of the materials synthesized with different content of CTAB showed that 10wt% additive amount of pore-forming agent had a better textural properties than other additive amount of pore-forming agents. It is clear that the S_{BET} and D_V of the catalysts were significantly increased, and the catalyst exhibited smaller particle size and more developed pore structure after ultrasonic treatment which proving that ultrasound can enhance the catalyst's catalytic activity. It is obviously that the catalyst synthesized with CTAB had best pore structure and Mn_4Ce_1/Ti/NC-CTAB-U exhibited the best performance for catalytic combustion of